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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,181	06/26/2003	Curtis M. Brubaker	HDISPLAY-01	5222

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EXAMINER

THOMAS, BRANDI N

ART UNIT	PAPER NUMBER
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2873

DATE MAILED: 04/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/607,181

Applicant(s)

BRUBAKER ET AL.

Examiner

Brandi N Thomas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16 and 17 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0304.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Detailed Action.

DETAILED ACTION

Information Disclosure Statement

1. Acknowledgement is made of receipt of Information Disclosure Statement(s) (PTO-1449) filed 6/26/03. An initialed copy is attached to this Office Action.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 8, 9, 9A, and 9B in figure 2. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 4, 6, 8, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Wells (5003300).

Regarding claim 1, Wells discloses a monocular display system mounted to a headgear portion, as in figures 1 and 5, comprising: a casing (10A or 10D); a mounting device (37D)

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attached to the casing (10D), detachably affixing the casing (10A or 10D) to and maintaining the casing aligned with and substantially parallel to the headgear portion (col. 4, lines 50-58); an arm (12A) attached to the casing (10A or 10D) and pivotable about a first axis generally orthogonal to the casing (10A or 10D) (col. 4, lines 59-69); and an optics assembly (figure 2) having an end attached to a housing (80) containing a display assembly, the housing (80) attached to the arm (12A) and pivotable about a second axis generally orthogonal to the casing (10A or 10D) and generally parallel to the first axis (col. 6, lines 17-23).

Regarding claims 3 and 6, Wells discloses a display system, wherein said mounting device is a spring clip (37D) (col. 6, line 56).

Regarding claim 4, Wells discloses a monocular display system mounted to a headgear portion, as in figures 1 and 5, comprising: a casing (10A or 10D) having an upper portion (60) and a lower portion (40) interfacing at a mating flange determining a reference plane (col. 5, lines 65-68 and col. 6, lines 4-5); a mounting device (37D) attached to the casing (10A or 10D) upper portion, detachably affixing the casing to the headgear portion (col. 4, lines 50-58); an arm (12A) having first and second portions determining generally circular upper and lower mating flanges (16 and 20A), the upper flange (16) pivotally attached to the casing lower portion (40), the arm and flanges generally parallel to the reference plane (col. 4, lines 50-59), the arm (12A) pivotable at the upper flange about a first axis generally orthogonal to the reference plane (col. 4, lines 59-69); and an optics assembly having a focus mechanism assembly determined by first and second ends, the first end connected to an eyecup, the second end attached to a housing (80) containing a display (90 and 100) and backlight assembly (50), the housing attached to a gimbal (18A) attached to the lower flange (20A) and pivotable about a second axis generally orthogonal

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to the reference plane and generally parallel to the first axis (col. 5, lines 10-15 and col. 6, lines 13-23).

Regarding claim 8, Wells discloses a display system, wherein said display and backlight assembly comprises a video/audio display (col. 2, lines 24-25 and col. 7, lines 13-14).

Regarding claim 12, Wells discloses a monocular display system, comprising: a primary casing (10A or 10D) having an upper portion (60) and a lower portion (40) interfacing at a mating flange determining a reference plane (col. 5, lines 65-68 and col. 6, lines 4-5) but does not specifically disclose that the headgear portion is selected from the group consisting of a cap visor. It is inherent that a visor can be used this being reasonably based upon the display system having a mounting device to attach the display system to objects worn by a user and it is also inherent that the casing upper portion would contour to the shape and support the underside of the cap visor this being reasonably based upon the allowing the casing to be used comfortable by the user; a spring mounting clip (37D) attached to the casing upper portion (60), detachably affixing the casing to the cap visor (col. 4, lines 50-58); an adjustment arm (12A) having first and second portions determining generally circular upper and lower mating flanges (16 and 20A), the upper flange (16) pivotally attached to the casing lower portion (40), the arm and flanges generally parallel to the reference plane (col. 4, lines 50-59), the arm (12A) pivotable at the upper flange about a first axis generally orthogonal to the reference plane (col. 4, lines 59-69); and an optics assembly having a focus mechanism assembly determined by first and second ends, the first end connected to an eyecup, the second end attached to a display housing (80) containing a display (90 and 100) and backlight assembly (50), the housing (80) attached to a gimbal (18A) attached to the lower flange (20A) which is pivotable about a second axis

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generally orthogonal to the reference plane and generally parallel to the first axis (col. 5, lines 10-15 and col. 6, lines 13-23).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wells (5003300).

Regarding claims 2 and 5, Wells discloses a display system, including a headgear portion (figure 1) but does not specifically disclose that the headgear portion is selected from the group consisting of a cap visor and a hat brim. It would have been obvious to someone of ordinary skill in the art at the time the invention was made to use a headgear portion is selected from the group consisting of a cap visor and a hat brim for the purpose of providing a display system that has a mounting device to attach the display system to objects worn by a user.

Regarding claim 7, Wells discloses a display system wherein pivotal movement of the arm about said first axis (col. 4, lines 59-69), pivotal movement of the optics assembly about said second axis (col. 6, lines 17-23) and gimbaled movement of said housing (col. 5, lines 10-15 and col. 6, lines 13-23) allows the eye cup to be positioned for the left or right eye when the headgear is worn by a user. Wells also does not specifically disclose the eyecup to be positioned for the

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left or right eye when a user wears the headgear. However, it would have been obvious to someone of ordinary skill in the art at the time the invention was made to allow the eyecup to be maneuvered and positioned to either eye for the purpose of the permitting the eyecup to be versatile depending on the user's preference.

7. Claims 9-11, 13, 14, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wells (5003300) as applied to claim 5 above, and further in view of Fan et al. (5815126).

Regarding claims 9 and 14, Wells a display system, wherein said casing contains a circuit board with circuitry for a wireless radio frequency video/audio receiver (col. 7, lines 13-19) except that it does not show a fractal antenna and electronic circuitry. Fan et al. shows that it is known to provide a fractal antenna to receive audio and video signals and other electronic information (col. 7, lines 14-16) and electronic circuitry to load programs, load and store data and communicate or network with other systems by wire or wireless operation (col. 2, lines 9-14). Therefore it would have been obvious to someone of ordinary skill in the art at the time the invention was made to combine the teaching of Wells with the antenna an electronic circuitry of Fan et al. for the purpose of receiving audio and video signals and other electronic information (col. 7, lines 14-16) and for loading programs, load and store data and communicate or network with other systems by wire or wireless operation (col. 2, lines 9-14).

Regarding claim 10, Fan et al. discloses a display system, wherein said optics assembly circuitry is connected to said display and backlight assembly (240) by a ribbon cable (320) passed through said arm (310) (col. 7, lines 48-58).

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Regarding claim 11, Fan et al. discloses a display system, further comprising a battery pack (529) (col. 14, line 55) and an audio earpiece (603a and 603b) connected by an audio microphone (559) and power cord to the circuit board (col. 15, lines 45-50) (figures 31B and 34A-D).

Regarding claim 13, Fan et al. discloses a display system, wherein: said focus mechanism assembly comprises, and a lens retainer bezel (150), having first and second lens elements (160), connected to the eyecup (col. 9, lines 35-39); and the display and backlight assembly (120) comprises a display unit (140) having an active-matrix liquid crystal display (AMLCD) (144) and an LED light source (122), and a backlight (124) which snaps onto the display unit (140) but does not specifically disclose a manually adjustable focus ring disposed between first and second telescoping focus rings. However, Fan et al. does disclose a mounting frame (110) with first and second guide rails (111a and 111b) to permit adjustment of the inter-pupil displacement of the light valve display panels (col. 8, lines 36-43 and figure 4). Fan et al. also does not disclose that the display housing is generally spherical, however it is obvious to modify the housing to be spherical, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art (In re Rose, 105 USPQ 237 (CCPA 1955)). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the structure to include a spherical housing for the purpose of an easy and comfortable fit around the eye. Fan et al. also does not disclose a gimbal. However, Wells does disclose hinge joints that aid in the pivoting the housing to and from the user's field of vision (col. 6, lines 22-23). It would have been obvious to one having ordinary skill in the art at the time the invention was made to is

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inherent to substitute the gimbal for hinge joints for the purpose of each the gimbal and hinge joints provide the assembly with similar functions.

Regarding claim 16, Fan et al. discloses a display system, wherein said camera module electronic circuitry comprises: a camera sensor (col. 6, line 10), an iris control (col. 8, lines 41-42); a microphone (col. 15, lines 46-48); and a video/audio signal processor (col. 6, lines 9-20) but does not specifically disclose an audio amplifier. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an audio amplifier for the purpose of enlarging and strengthening a signal's output without significantly distorting its original waveshape.

Regarding claim 17, Wells discloses a display system, wherein said primary casing (10A or 10D) is fabricated from a polycarbonate plastic (col. 4, lines 50-54).

Allowable Subject Matter

8. Claim 15 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: The prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the independent claim(s), in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in claim(s) 15, wherein the claimed invention comprises wherein said 2.4 GHz

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video/audio receiver circuitry comprises: a radio frequency tilter; a first and second low noise amplifiers; a phase locked loop; a demodulator; and a signal decoder and LCD driver, as claimed.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fischer et al. (5642221) discloses a head-mounted display system for the viewing of video or other sources of imagery.

Dor (5471678) discloses a flip-up mount for a night vision system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandi N Thomas whose telephone number is 571-272-2341.

The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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4/5/04

R. Mack

**RICKY MACK
PRIMARY EXAMINER**